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DEVELOPMENT OF 2D GAMES IN UNITY5

Today's pace of computerization exceeds the rate of all other industries. A modern man begins to interact with the computer constantly - at work, at home, in the car and even in the airplane. The world of computers is constantly updating with new, improved applications, increased CPU speed, volume and speed of memory storages. In this technological fight one of the main places are occupied by computer games that have arisen with the advent of computers.

At the beginning of the XXI century game industry is gaining increasing momentum of development. There is popularization and active use of mobile games, games for consoles and PC. It is noteworthy that the consumers' attention in the market is attracted by qualitative games and interesting projects according to the aspects and relevance of the research.

Computer games have found a large number of supporters. They accompany younger generation, promote the rapid development of intelligence, logical thinking and imagination of a person. A computer player is getting used to move from one virtual world to another, quickly perceive unfamiliar situations and adapt to them. Modern life provides advanced intellectual flexibility to adapt to new, unexpected realities. Computer games exercise the function of socialization of young people in post-industrial society.

The development of the game market is inextricably linked to the improvement of computer technology. One of these technologies is used to create a 2D computer game.

2D games are a very common category of computer games. The main source of 2D games is the Internet. Online environment of 2D games or as they are called "browser games" is among the most popular.

2D games are classified according to various criterias and grounds: - By genre;
- By the number of players;

-By the type of game perspective.

2D games can be attributed to the genres:

- 1) Action - games based on player actions;
- 2) Shooter, in which the character must shoot enemies with weapons;
- 3) Adventure games;
- 4) Racing;
- 5) Simulators;
- 6) Fighting;

- 7) RPG (Role-Playing Game - playing games);
- 8) Sports;
- 9) Strategy.

2D graphics, a computer graphics division working with the image formed in two dimensions, has only two parameters - width and height. 2D image is called flat. 2D realistic perception is due to features of the pictures in a brain, that is eyes read flat image and brain ends representation in three-dimensional format.

2D-graphics has strong positions in video games and cinema. 3D has the effects that can be characterized as "immersive". However, their value is often exaggerated greatly because to gain the total immersion in virtual reality is impossible. 2D is now realized on smaller screens of mobile devices, which, because of limited hardware resources, cannot reproduce three-dimensional images. 2D also has advantages in terms of 3D displaying a text on the screen and surface matrices.

Unity 3D is a powerful development environment for cross-platform Unity engine that allows to create video games and applications. Unity is a program for the development of 2D and 3D games. Games and applications created via Unity 3D are run in the operating systems such as Windows, OS X, Android, iOS, Linux, Blackberry and on game consoles such as Wii, PlayStation 3 and Xbox 360. Applications created via Unity support DirectX and OpenGL.

With Unity 3D you can create video games of any genre. A developer can easily import textures, models and sounds. Textures are supported by all popular image formats. You can create scripts using JavaScript though you can write code on C#.

Features of Unity 3D:

- Is highly customizable;
- Has accessible and intuitive interface;
- Has scenario C #, JavaScript, and Boo;
- Has full integration of game engine development environment;
- Supports drag and drop editor;
- Supports import of a large number of formats;
- Has a built-in support network;
- Supports tissues physics (PhysX Cloth);
- Has the possibility of adding functionality;
- Has tools for common development;
- Supports dynamic shadows and surround sound;
- Uses version control.

Unity5 cross platform technology provides a diverse set of components and tools that are designed to improve and simplify the process of creating 2D and 3D high-quality games and applications that can be run on more than 15 different modern operating systems.

Unity3D supports a Level Of Detail (abbr. LOD), highly detailed models are replaced by less detailed, and vice versa. While compiling the project creates an executable (.exe) file of the game (for Windows), and in a separate folder it creates your game (including all playing levels and shared libraries).

It can be concluded that the design and development of 2D games using Unity 5 and the opportunities that its functional part provides for the developer has nowadays a considerable relevance.

It should also be noted that the technology discussed in the paper is quite successful, and is intended primarily for students and professional developers of game applications that want to try themselves in the development and creating highend gaming and software applications. After all, this technology provides a great opportunity and flexibility when writing a game app.

It is also worth noting that there are prospects of further increasing functionality in gaming applications like graphics and logical interaction of game objects. It's due to the game logic and various components and resources used in the project were developed consequently.

Literature:

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